

Exploring How Long Prime Ministers of Australia lived*

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```
# A tibble: 31 x 4
  `Prime minister` `Birth year` `Death year` `Years lived`
  <chr>           <int>       <int>       <int>
1 Tammy           1843       1934        91
2 Carolyn         1845       1909        64
3 Samantha        1852       1945        93
4 Joseph          1855       1911        56
5 Daniel          1860       1944        84
6 Andrew          1861       1922        61
7 Thomas          1864       1959        95
8 Florence        1873       1945        72
9 Walter          1873       1972        99
10 Austin         1877       1956        79
# i 21 more rows
```

```
# Read data
# Reference: https://tellingstorieswithdata.com/07-gather.html#prime-ministers-of-the-united
raw_data <-
  read_html(
    "https://en.wikipedia.org/wiki/List_of_prime_ministers_of_Australia"
  )
write_html(raw_data, "pms.html")

raw_data <- read_html("pms.html")
```

*Code and data are available at: <https://github.com/AmieLiu/Exploring-How-Long-Prime-Ministers-of-Australia-lived.git>

```

parse_data_selector_gadget <-
  raw_data |>
  html_element(".wikitable") |>
  html_table()

```

```

head(parse_data_selector_gadget)

```

```

# A tibble: 6 x 12

```

```

  No.   Portrait Name(Birth-Death)Con~1 `Election(Parliament)` `Term of office`
  <chr> <chr>      <chr>                  <chr>                  <chr>
1 No.   "Portrai~ Name(Birth-Death)Cons~ Election(Parliament) Took office
2 1      ""      Edmund Barton(1849-19~ 1901 (1st)             1 January1901
3 1      ""      Edmund Barton(1849-19~ 1901 (1st)             1 January1901
4 1      ""      Edmund Barton(1849-19~ 1901 (1st)             1 January1901
5 2      ""      Alfred Deakin(1856-19~ - (1st)                24 September1903
6 2      ""      Alfred Deakin(1856-19~ 1903 (2nd)            24 September1903
# i abbreviated name: 1: `Name(Birth-Death)Constituency`
# i 7 more variables: `Term of office` <chr>, `Term of office` <chr>,
#   Politicalparty <chr>, Ministry <chr>, Monarch <chr>,
#   `Governor-General` <chr>, Ref. <chr>

```

```

parsed_data <-
  parse_data_selector_gadget |>
  clean_names() |>
  rename(raw_text = name_birth_death_constituency) |>
  select(raw_text) |>
  filter(raw_text != "name_birth_death_constituency") |>
  distinct()

```

```

head(parsed_data)

```

```

# A tibble: 6 x 1

```

```

  raw_text
  <chr>
1 Name(Birth-Death)Constituency
2 Edmund Barton(1849-1920)MP for Hunter, NSW
3 Alfred Deakin(1856-1919)MP for Ballaarat, Vic[a]
4 Chris Watson(1867-1941)MP for Bland, NSW
5 George Reid(1845-1918)MP for East Sydney, NSW
6 Andrew Fisher(1862-1928)MP for Wide Bay, Qld

```

```

# Clean data
# Reference: https://tellingstorieswithdata.com/07-gather.html#prime-ministers-of-the-united
initial_clean <-
  parsed_data |>
  separate(
    raw_text, into = c("name", "not_name"), sep = "\\(|\\|\\|\\|\\|\\|)", extra = "merge"
  ) |>
  mutate(date = str_extract(not_name, "[[:digit:]]{4}-[[:digit:]]{4}"),
    born = str_extract(not_name, "born[[:space:]]{4}[[:digit:]]{4}"),
    not_name = if_else(is.na(not_name), NA_character_, not_name)
  ) |>
  select(name, date, born)

initial_clean <- initial_clean[-1, ]

head(initial_clean)

```

```

# A tibble: 6 x 3
  name      date      born
  <chr>    <chr>    <chr>
1 Edmund Barton 1849-1920 <NA>
2 Alfred Deakin 1856-1919 <NA>
3 Chris Watson  1867-1941 <NA>
4 George Reid   1845-1918 <NA>
5 Andrew Fisher 1862-1928 <NA>
6 Joseph Cook   1860-1947 <NA>

```

```

cleaned_data <-
  initial_clean |>
  separate(date, into = c("birth", "died"),
    sep = "--") |> # PMs who have died have their birth and death years
  # separated by a hyphen, but we need to be careful with the hyphen as it seems
  # to be a slightly odd type of hyphen and we need to copy/paste it.
  mutate(
    born = str_remove_all(born, "born[[:space:]]"),
    birth = if_else(!is.na(born), born, birth)
  ) |> # Alive PMs have slightly different format
  select(-born) |>
  rename(born = birth) |>
  mutate(across(c(born, died), as.integer)) |>
  mutate(Age_at_Death = died - born) |>
  distinct() # Some of the PMs had two goes at it.

```

```

cleaned_data <- cleaned_data[1:23, ]

new_rows <- data.frame(
  name = c("Paul Keating", "John Howard", "Kevin Rudd", "Julia Gillard",
           "Tony Abbott", "Malcolm Turnbull", "Scott Morrison", "Anthony Albanese"),
  born = c(1944, 1936, 1957, 1961, 1957, 1954, 1968, 1963),
  died = NA,
  Age_at_Death = NA
)

cleaned_data <- rbind(cleaned_data, new_rows)

head(cleaned_data)

```

```

# A tibble: 6 x 4
  name      born  died Age_at_Death
  <chr>    <dbl> <int>      <int>
1 Edmund Barton 1849  1920         71
2 Alfred Deakin 1856  1919         63
3 Chris Watson  1867  1941         74
4 George Reid   1845  1918         73
5 Andrew Fisher 1862  1928         66
6 Joseph Cook   1860  1947         87

```

Key Findings

Analyzing the lifespan of Prime Ministers of Australia reveals interesting insights into the longevity and trends among the country's leaders. The dataset contains details regarding the birth years of 31 Prime Ministers, along with their death year and age at death if applicable. Figure 1 shows that out of the 31 Prime Ministers, 8 are currently alive. It covers a broad timeframe, spanning from the late 19th century to the present day (see Figure 2).

The average lifespan of Australian Prime Ministers appears to be relatively high, with many living well into their 70s, 80s, and even 90s. As depicted in Figure 1, Sir Gough Whitlam stands out as the longest-lived Prime Minister, passing away at the remarkable age of 98. Similarly, Sir Billy Hughes, Sir Frank Forde, and Sir John Gorton also lived into their 90s, highlighting exceptional longevity among Australia's leaders. On the other hand, some Prime Ministers had relatively shorter lifespans. Harold Holt, who served as Prime Minister from 1966 and 1967 ([wikipedia?](#)), passed away at the age of 59, making him one of the youngest

Prime Minister	Birth year	Death year	Age at death
Edmund Barton	1849	1920	71
Alfred Deakin	1856	1919	63
Chris Watson	1867	1941	74
George Reid	1845	1918	73
Andrew Fisher	1862	1928	66
Joseph Cook	1860	1947	87
Billy Hughes	1862	1952	90
Stanley Bruce	1883	1967	84
James Scullin	1876	1953	77
Joseph Lyons	1879	1939	60
Earle Page	1880	1961	81
Robert Menzies	1894	1978	84
Arthur Fadden	1894	1973	79
John Curtin	1885	1945	60
Frank Forde	1890	1983	93
Ben Chifley	1885	1951	66
Harold Holt	1908	1967	59
John McEwen	1900	1980	80
John Gorton	1911	2002	91
William McMahon	1908	1988	80
Gough Whitlam	1916	2014	98
Malcolm Fraser	1930	2015	85
Bob Hawke	1929	2019	90
Paul Keating	1944	NA	NA
John Howard	1936	NA	NA
Kevin Rudd	1957	NA	NA
Julia Gillard	1961	NA	NA
Tony Abbott	1957	NA	NA
Malcolm Turnbull	1954	NA	NA
Scott Morrison	1968	NA	NA
Anthony Albanese	1963	NA	NA

Figure 1: Table of Australian Prime Ministers

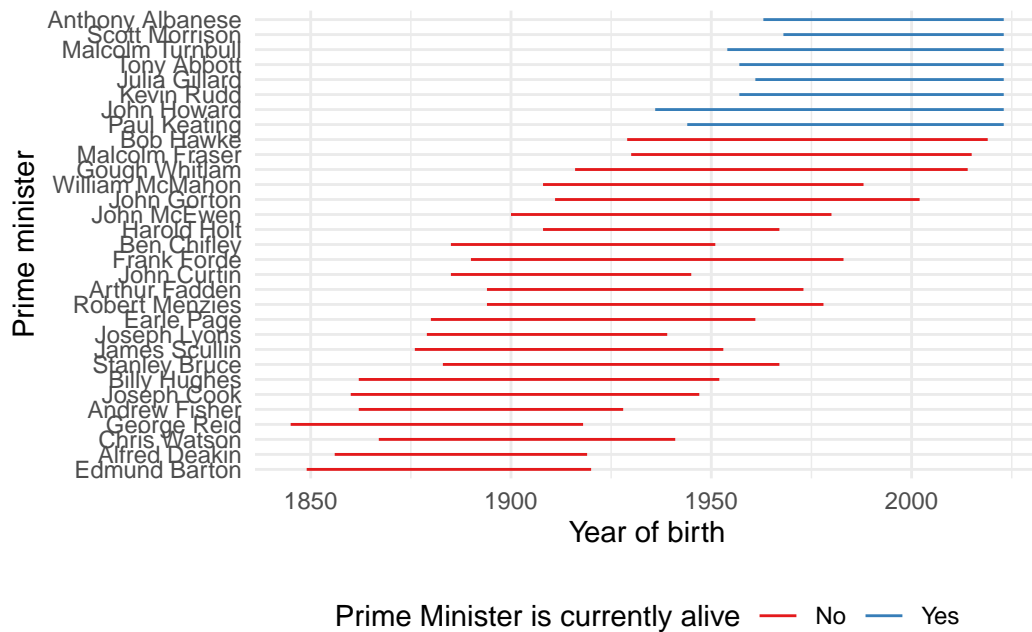


Figure 2: Lifespan of Australian Prime Ministers

Prime Ministers to die (see Figure 1). Similarly, Joseph Lyons and John Curtin also died relatively young at the age of 60.

Figure 2 presents a clear pattern, illustrating the chronological distribution of prime ministers over time and emphasizing the changes in leadership throughout Australia's history. One notable observation is the steady increase in the number of Prime Ministers over the years, reflecting the growth and evolution of Australia's political landscape. It also highlights periods of stability and continuity in leadership, as well as moments of transition and change. Furthermore, the color-coded differentiation between Prime Ministers who are alive and those who have passed away provides insights into their current status (see ?@fig-grap). This information enhances our understanding of Australia's political history and the legacies of its past leaders.

References